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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/241,497 02/01/99 HAMEL

M 4666

EXAMINER

IM62/0726

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SINES, B

ART UNIT

PAPER NUMBER

1743

DATE MAILED:

07/26/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/241,497

Applicant(s)

HAMEL ET AL.

Examiner

Brian J. Sines

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some * c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) ____.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 – 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear if the deflection limitation is met solely by the stiffness of the resin or if it is related to the size and thickness dimensions of the plate. For examination purposes, the claim is being treated as if the deflection characteristics were deemed solely dependent upon the material composition of the plate. The description of the "edge" in line 5 in claim 1 and referenced in line 1 in claim 5 is indefinite. The applicant is required to provide further structural definition of the edge or surface area enclosing the inner region of the magazine: Is the edge a sharp corner, or an angled, flat or rounded surface? Claim 1 recites the limitation "said geometric center" in line 8. There is insufficient antecedent basis for this limitation in the claim. Claim 4 recites the limitation "amount of glass fiber" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1, 2, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over T. Taggart (U.S. Pat. No. 5,882,603) in view of P.E. Stolp (U.S. Pat. No. 5,630,988) and in further view of R.C. Weast et al. (1984).

Taggart discloses a disposable pipette tip rack or magazine containing the structural features of your device as similarly described in the language of claim

1. As shown in Figure 1, Taggart discloses a pipette tip rack or magazine comprising a rectangular plate or tip holder (10) having an edge, which encloses an inner region containing an array of through-openings (11) for vertically receiving and retaining pipette tips (P). The tip holder (10) is not free standing and therefore requires the support (14) for use. The tip holder (10) is inserted into and rests within the support (14). The edge of the tip holder (10) rests on the support planes (24a,b) or ledges of the support (14). The support additionally comprises a varying number of support members (32) which can provide

additional support to the tip holder (10). Taggart recognizes that the support members (32) must have sufficient strength so that the tip holder (10) does not deflect down or warp when the pipette tips (P) are removed by an instrument which presses down onto the apparatus so as to wedge the pipette tips (P) securely onto the instrument (lines 58 – 65, column 3). Although Taggart teaches that a variety of suitable materials, such as various plastics, metals, ceramics and combinations of such materials, may be used in the construction of the support and tip holder, Taggart is deficient in specifying a polycarbonate resin (lines 39 – 51, column 4). In the design of a tip holder and support, which would have been more resilient to downward deflection, a stiffer material would have been sought. As taught by Stolp for example, pipette tip racks are commonly manufactured using polymeric thermoplastic resins, such as molded polypropylene or other related pressure-resistant durable plastics (lines 12 – 21, column 8). Furthermore, as taught by Weast et al., the mechanical properties characteristic of polycarbonate thermoplastics are indicative of greater mechanical strength and stiffness in comparison to unmodified and copolymer polypropylene thermoplastics (pp. C-780 – 782). For example, the modulus of elasticity of unfilled polycarbonate thermoplastics is $290 - 325 \times 10^3$ psi, whereas the modulus of elasticity for unmodified polypropylene thermoplastics is much lower at $1.4 - 1.7 \times 10^3$ psi. In addition, the tensile strength of unfilled polycarbonate thermoplastics is 8,000 – 9,500 psi, whereas the tensile strengths of unmodified and copolymer polypropylene thermoplastics are lower at 4,300 – 5,500 psi and 2,900 – 4,500 psi, respectively. It would therefore have been

obvious to one of ordinary skill in the art at the time the invention was made to substitute a thermoplastic polymer resin having greater mechanical strength properties, such as a polycarbonate resin, instead of a less mechanically robust polymeric resin, such as a polypropylene resin, in order to manufacture a pipette tip magazine having the desired mechanical strength, inherent stiffness and deflection properties as stated in your claims. Stolp additionally teaches a disposable pipette tip rack which is stackable when filled with pipette tips and is a commonly found feature in the design of disposable pipette tip racks as shown in Figure 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to manufacture a disposable pipette tip magazine which was stackable when filled with pipette tips.

2. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over T. Taggart (U.S. Pat. No. 5,882,603) in view of P.E. Stolp (U.S. Pat. No. 5,630,988) and in further view of R.C. Weast et al. (1984) as applied to claims 1, 2, 5 and 6 above, and further in view of A. Nakano et al. (U.S. Pat. No. 6,087,435). Taggart's disclosure is deficient in suggesting the inclusion of glass fiber within the polymer resin to form a robust fiber-polymer composite. In the design of a tip holder and support, which would have been more resilient to downward deflection, a stiffer material, such as a fiber-polymer resin composite, would have been considered. Nakano et al. teaches fiber-polymer composites using a thermoplastic resin, such as a polycarbonate, and including glass fiber as an inorganic filler to impart greater mechanical strength (lines 10 – 21, column 2). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to suggest the fiber-polymeric resin composition comprising the glass fiber content as stated in your claims in order to provide for the enhanced mechanical strength and rigidity in the pipette tip magazine so as to allow for the specified deflection characteristics.

Prior Art

The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure. Hill teaches a stackable disposable pipette tip rack. T.W. Astle teaches a micropipette tip loading and unloading device and method and tip package. J.B. Cohen teaches a package for disposable pipette tips. C. Kelly et al. teaches a pipette tip rack and refill pack. D.J. Lemieux et al. teaches a refill pack for pipette tip racks. P. M. Lind teaches a pipette tip rack loader. A. Tiso teaches a pipette tip rack loader. C. Kelly et al. additionally teaches a pipette tip rack refill plate hold down apparatus. D. A. Aldred teaches a pipette tip storage tray and method of use. W. Meltzer teaches a automated pipetting system. K. Rainin et al. teaches an enclosed pipette tip rack. K. Rainin additionally teaches an apparatus for supporting pipette tips. L.G. Scaramella et al. teaches a pipette tip packaging system. E.A. Scardato et al. teaches disposable pipette tips and trays. R. Daniel teaches a multiple sample holder indexing means and method using the same. D. Frenkel et al. teaches a pipette tip holder. P.E. Stolp additionally teaches a pipette tip mounting and transfer apparatus and method. G. P. Kalmakis et al. teaches a pipette tip rack with an array of interconnected sleeves. B. Steinbrenner et al. teaches a device for

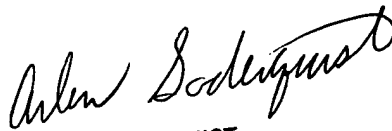
arranging a plurality of objects on a support. E. A. Scardato additionally teaches a pipette tip package. M.L. Marrocco, III et al. teaches rigid-rod polymers. S. Hanada et al. teaches resin composition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines whose telephone number is (703) 305-0401. The examiner can normally be reached on Monday - Friday (7 AM - 3:30 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (703) 308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

BJS
July 24, 2000


ARLEN SODERQUIST
PRIMARY EXAMINER